Sensepoint XCD RTD

A gas transmitter for use with directly or remotely mounted toxic and Oxygen gas sensors

Benefits
- Increased personnel safety
- Compliance with Health and Safety legislation
- Fulfilment of duty of care
- Reduced insurance premiums

Flexibility
- Tri-colour display indicates status at a glance
- Transmitter can be mounted in easy to access area or highly visible location
- Sensor can be mounted directly or up to 30 metres (100 feet) from transmitter
- Detects a wide range of toxic gases
- Generic 4-20mA input device option

Reliable Detection
- Compatible with Honeywell Analytics' proven Sensepoint toxic and Oxygen gas sensors
- Surecell™ technology ensures performance at extremes of temperature and humidity
- Long-life sensors
- IP66/67 rated for use in harsh environments

Easy to Use
- Easy to read tri-colour backlit display with digits, bar graph and icons
- Fully configurable via non-intrusive magnetic switches
- Selectable sink or source 4-20mA output
- Auto-inhibit during maintenance prevents false alarms

Cost Effective
- Sensepoint XCD common transmitter platform
- Reduces training costs
- Reduces spares and stock costs
- Non-intrusive, one-man operation reduces cost of maintenance
- Plug-in sensor cartridge replacement

Applications
- Industrial manufacturing facilities
- Power plants
- Waste water facilities
- Utilities
- Food and beverage production
- Refineries and chemical plants
- Onshore oil and gas terminals
- Production platforms
- Exploration and drilling

Sensepoint XCD RTD enables users to comply with legislation, increase safety and reduce insurance premiums and maintenance costs when protecting personnel from toxic gas releases. It provides proven, reliable toxic and Oxygen gas detection, an easy to read status display and a common platform.

Sensepoint XCD RTD (Remote Toxic Detector) has been specifically designed for use with the Honeywell Analytics' range of Sensepoint toxic and Oxygen sensors. This configuration is ideal for a wide range of toxic and Oxygen gas detection applications. The sensor can be mounted up to 30 metres (100 feet) away from the transmitter in areas that are difficult to access. The transmitter can be mounted at a suitable location away from this area where it is easy to access, view its display and interact with via the user interface.

Sensepoint toxic and Oxygen sensors offer a wide variety of gases and measuring ranges. The sensor can be mounted directly to the transmitter as well as remotely. Sensepoint XCD RTD can be used as a common platform for all toxic and Oxygen gas detection, reducing spares requirements. The Sensepoint sensor design includes an IS portion with a removable sensor cartridge, eliminating the need for a hot work permit when changing the sensor cartridge. The sensor has an IP67 rating for use in the harshest conditions.

The transmitter's tri-colour backlit LCD clearly indicates the unit's status at a glance, even from a distance. A steady green backlight indicates normal operation, flashing yellow indicates fault and flashing red indicates an alarm.

Outputs include 2 programmable alarm relays, 1 programmable fault relay as well as 4-20mA output (sink or source selectable).

The range, relay operation, alarm set points and electronic tag number of the detector can be adjusted using the transmitter's LCD and the non-intrusive magnetic switches. Outputs are automatically inhibited during adjustment thereby reducing the risk of false alarm at the control panel during maintenance.
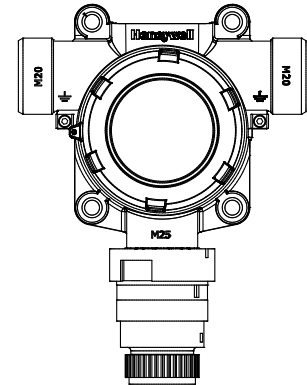
Sensepoint XCD RTD
Overview

The Sensepoint XCD RTD (Remote Toxic Detector) can be used with the Sensepoint range of toxic and Oxygen gas detectors. The sensors can be directly mounted to the M25 entry at the bottom of the transmitter, or remotely mounted to suitable junction boxes or duct mounting assemblies.
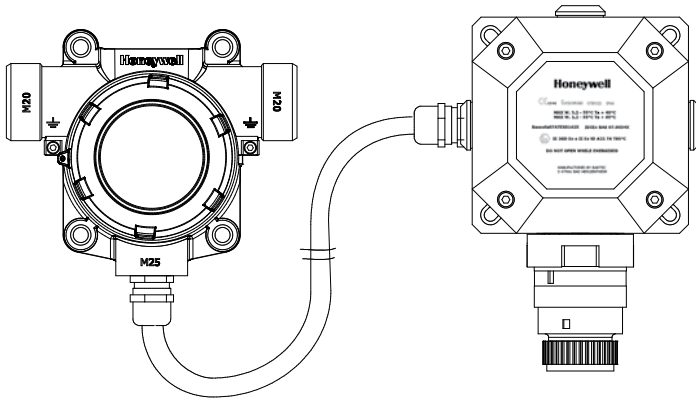
Typical installation of Sensepoint XCD RTD with remote Sensepoint toxic or Oxygen sensor

Typical installation of Sensepoint XCD RTD with local Sensepoint toxic or Oxygen sensor

Available Sensepoint Toxic Sensors									
Gas and Range	Hydrogen Sulphide (H$_2$S) 20/50/100ppm	Carbon Monoxide (CO) 100/200/500ppm	Ammonia (NH$_3$) 50/1000ppm	Chlorine (Cl$_2$) 5/15ppm	Oxygen (O$_2$) 25% V / V	Hydrogen (H$_2$) 1000/10000ppm	Sulphur Dioxide (SO$_2$) 15/50ppm	Nitric Oxide (NO) 100ppm	Nitrogen Dioxide (NO$_2$) 10ppm
Operating Temp	-25 to +50˚C	-20 to +50˚C	-20 to +40˚C	-20 to +50˚C	-15 to +40˚C				
Warm-up Time	< 3 minutes			< 5 minutes		< 3 minutes		12 hours	1 hour
Response Time									
T20	< 6 secs	< 5 secs	–	< 10 secs	< 3 secs	–	–	< 3 secs	< 15 secs
T50	< 15 secs	< 12 secs	< 10 secs	< 20 secs	< 5 secs	< 10 secs	< 10 secs	< 5 secs	< 30 secs
T90	< 40 secs	< 30 secs	< 65 secs	< 105 secs	< 10 secs	< 45 secs	< 90 secs	< 30 secs	< 60 secs
Stability (zero)									
with time*	< ±2% fsd / yr								
with temp**	< ±5% fsd		< ±6% fsd	< ±2% fsd		< ±2% fsd		< ±5% fsd	
with humidity	< ±10% fsd	< ±2% fsd	< ±10% fsd	< ±2% fsd		< ±2% fsd		< ±10% fsd	
Stability (span)									
with time*	< ±2% fsd / yr	< ±4% fsd / yr	< ±20% fsd / yr	< 10% fsd / yr	< ±20% fsd / yr	< ±2% fsd / yr			
with temp***	< ±25% fsd	< ±20% fsd	< ±20% fsd	< 40% fsd	< ±10% fsd	< ±60% fsd	< ±15% fsd	< ±25% fsd	
with humidity	< ±10% fsd	< ±2% fsd	< ±10% fsd	< ±2% fsd	< ±1% fsd	< ±2% fsd		< ±10% fsd	

Notes
*= % of range (fsd) per year,   **Over operating temperature range,   ***= % of applied concentration

Ready, Steady, Go!

Sensepoint XCD RTD uses three instantly recognisable 'traffic light' colours to indicate its status. The large tri-colour backlit LCD flashes red to indicate an alarm, flashes yellow to indicate a fault and is steady green to indicate normal operation. This allows anyone in the area to clearly see at a glance the status of any detector. This can be particularly useful to identify detector status if the detector is located in a difficult to access area or if a number of detectors are located in the same area.

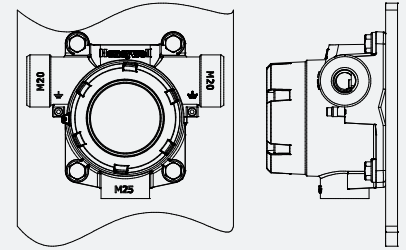Normal   Fault/Warning   Alarm

Installation

Mechanical

The Sensepoint XCD RTD transmitter has an integral mounting plate consisting of four mounting holes on the transmitter body. The transmitter may be fixed directly to a surface mounting, or to a horizontal or vertical pipe/structure, 40.0-80.0mm (1.6 to 3.1 inches) in diameter/cross section. The pipe mounting bracket accessory (optional accessory) may be used for this purpose.
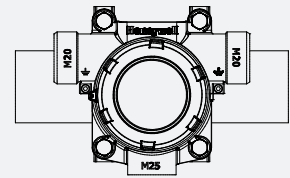

164

17.00

ø8.5

Honeywell

M20

M20

139

M25

80

4 - M8 Bolt
4 - ø8.50 Hole

99

106
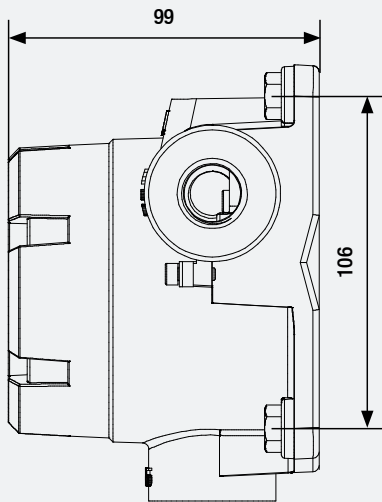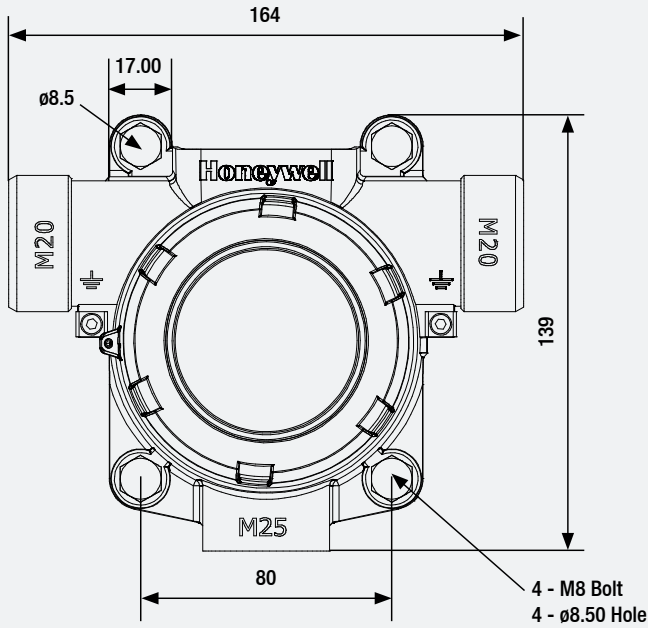
All dimensions in mm.
1" = 25.4mm

Typical installation of Sensepoint XCD RTD with remote Sensepoint toxic or Oxygen sensor

Typical installation of Sensepoint XCD RTD with local Sensepoint toxic or Oxygen sensor
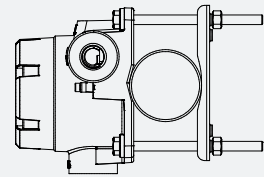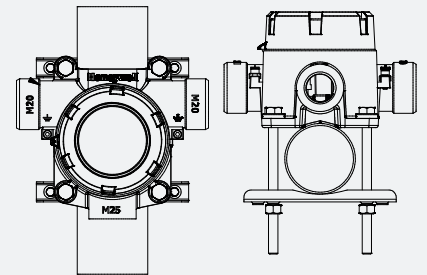
Installation Options

Wall mounted

Horizontal pipe mounted
(Using optional pipe mounting kit)

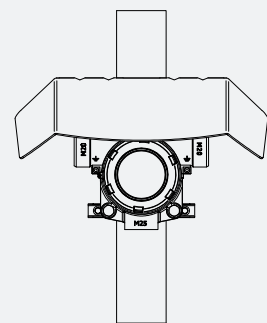**Vertical pipe mounted**
(Using optional pipe mounting kit)
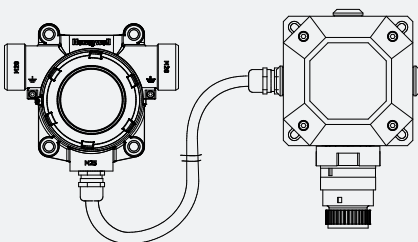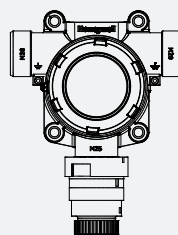
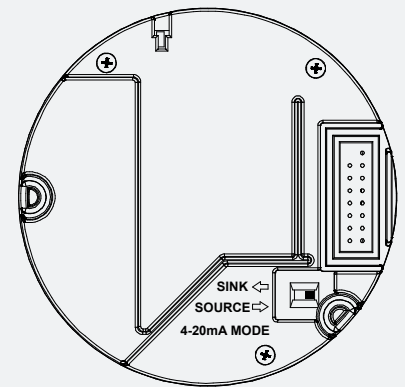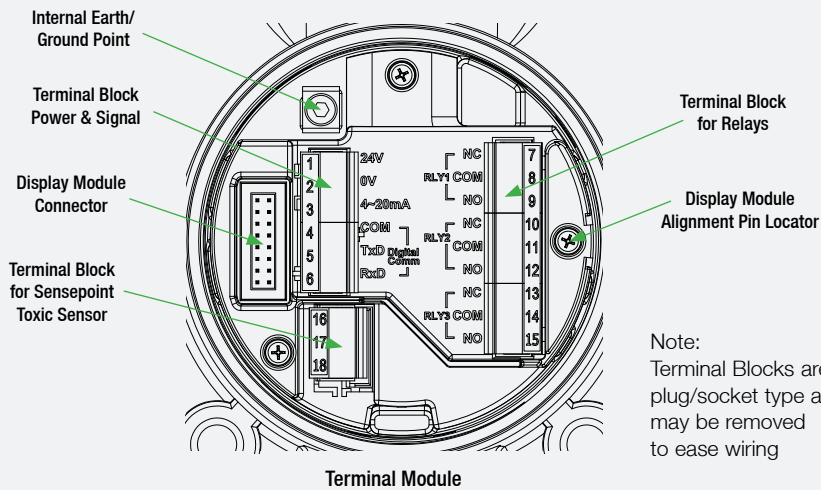**Optional sunshade/deluge protection**

Electrical

Sensepoint XCD RTD is designed for use in potentially explosive atmospheres. As such, installation should follow national guidelines using suitable mechanically protected cable and glands (M20 and M25). Use $0.5mm^2$ to $2.5mm^2$ cross sectional area cable as needed to ensure minimum operating voltage at the detector, depending on installed cable length.

Terminal Module Connections

Terminal Number	Marking	Connection	Description
1	24V	+VE Supply (18 - 32VDC)	Controller Connections
2	0V	-VE Supply (0VDC)	
3	4~20mA	Current Output Signal	
4	COM	Drain	MODBUS RTU. RS485 (Optional/ Pending)
5	TxD	MODBUS B (+)	
6	RxD	MODBUS A (-)	
7	RLY1/NC	Normally Closed	Programmable Relay 1 (Default A1)
8	RLY1/COM	Common	
9	RLY1/NO	Normally Open	
10	RLY2/NC	Normally Closed	Programmable Relay 2 (Default A2)
11	RLY2/COM	Common	
12	RLY2/NO	Normally Open	
13	RLY3/NC	Normally Closed	Programmable Relay 3 (Default Fault)
14	RLY3/COM	Common	
15	RLY3/NO	Normally Open	
16	+VE	+24VDC (Sensor Red Wire)	RTD Sensor Connections
17	-VE	4-20mA (Sensor Blue Wire)	
18	Unused	-	
Earth Point	Earth Symbol	Screen	

Internal Earth/ Ground Point
Terminal Block Power & Signal
Display Module Connector
Terminal Block for Sensepoint Toxic Sensor
Terminal Block for Relays
Display Module Alignment Pin Locator

Note: Terminal Blocks are plug/socket type and may be removed to ease wiring

Terminal Module

SINK
SOURCE
4-20mA MODE

Puck Rear View

Wiring Schematics

The Sensepoint XCD RTD transmitter may be wired in either current sink or current source configuration. These two options are offered to allow greater flexibility in the type of control system that it can be used with. Sink/source is selectable via the switch located on the back side of the display module; accessible by removing the display module during installation/ commissioning.

Note: Terminate cable screen at the detector or the controller, not both.

Detector to Controller Wiring Schematics
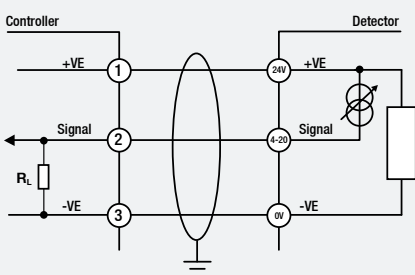
Sensepoint XCD RTD Source Configuration
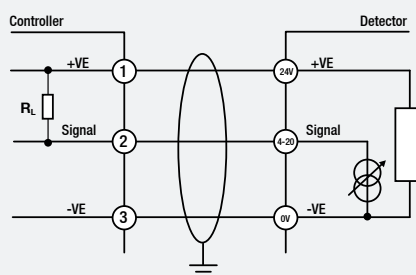
Sensepoint XCD RTD Sink Configuration

Transmitter to Sensor Wiring Schematic

2 Wire 4-20mA (Source)

Typical Cable Lengths

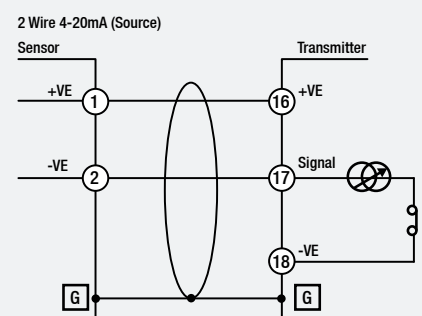| Typical Cable Data			Maximim Cable Length	
Cable Size (Cross Sectional Area)	Cable Resistance			
	Ω/km	Ω/mi	Metres	Feet
0.5mm² (20AWG*)	36.8	59.2	353	1158
1.0mm² (17AWG*)	19.5	31.4	666	2185
1.5mm² (16AWG*)	12.7	20.4	1023	3356
2.0mm² (14AWG*)	10.1	16.3	1287	4222
2.5mm² (13AWG*)	8	12.9	1621	5318

Note:
Table given for guidance only. Users should calculate maximum distances using actual data for cable being used. Typical calculation assumes minimum guaranteed controller supply of 24VDC, minimum detector voltage of 18VDC and maximum power supply under full alarm. R_L (max) is 250ohms.

Sensepoint XCD RTD Transmitter

Use	3 wire 4-20mA gas transmitter for use with toxic and Oxygen gas sensors to protect plant and personnel from toxic and Oxygen gas hazards. Transmitter incorporates in-built alarm and fault relays, local tri-colour LCD display and is fully configurable via non-intrusive magnetic switch interface.

Electrical

	Input Voltage Range	18 to 32VDC (24VDC nominal)
	Max Power Consumption	5 Watts
	Current Output	Sink or source
	≥0.0<1.0mA	Fault
	2.0mA or 4.0mA	Inhibit (during configuration/user settings)
	4.0mA to 20.0mA	Normal gas measurement
	22.0mA	Maximum over range
	Terminals	18 x screw terminals suitable for wire diameter 0.5mm² to 2.5mm² (20AWG to 14AWG)
	Relays	3 x 5A@250VAC. Selectable normally open or normally closed (switch) and energised de-energised (programmable) Alarm relays default normally open/de-energised. Fault relay default normally open/energised

Construction

Material	Transmitter Housing	Epoxy painted aluminium alloy LM25 or 316 stainless steel
	Sensepoint Toxic Sensor	PPS
	Weather Protection	Plastic
Weight (approx)	Aluminium Alloy LM25	2.0kg (4.4lbs)
	316 Stainless Steel	5.0kg (11lbs)
	Sensor	0.2kg (max- type dependant)
Mounting	Integral mounting plate with 4 x mounting holes suitable for M8 bolts	
	Optional pipe mounting kit for horizontal or vertical pipe Ø1.5 to 3" (2" nominal)	
Entries	European ATEX/IECEx versions: 2 x M20 side entries and 1 x M25 bottom entry. Suitable blanking plug supplied for use if only 1 side entry used. Seal to maintain IP rating	

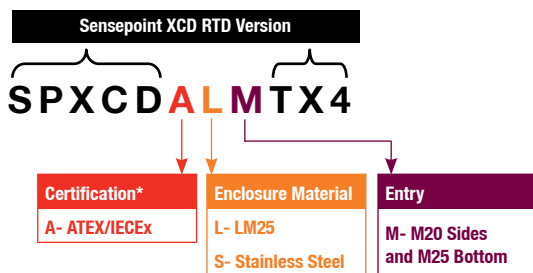### Sensepoint Detectable Gases, Ranges and Default Settings

Gas	Displayed Name	Range	Lower Alarm	Lower Alarm Type	Higher Alarm	Higher Alarm Type	Lowest Alarm Level
Hydrogen Sulphide	H_2S	20.0ppm	4.0ppm	Rising	8.0ppm	Rising	2.0ppm
		50.0 ppm	10.0ppm	Rising	20.0ppm	Rising	5.0ppm
		100 ppm	20ppm	Rising	40ppm	Rising	10ppm
Carbon Monoxide	CO	100 ppm	30ppm	Rising	60ppm	Rising	10ppm
		200 ppm	40ppm	Rising	80ppm	Rising	20ppm
		500 ppm	100ppm	Rising	200ppm	Rising	50ppm
Chlorine	Cl_2	5.0 ppm	0.5 ppm	Rising	2.0ppm	Rising	5.0ppm
		15.0 ppm	1.5 ppm	Rising	6.0ppm	Rising	10ppm
Ammonia	NH_3	50.0ppm	20.0ppm	Rising	30.0ppm	Rising	5.0ppm
		100 ppm	20ppm	Rising	40ppm	Rising	10ppm
		1000 ppm	200ppm	Rising	400ppm	Rising	100ppm
Hydrogen	H_2	1000ppm	200ppm	Rising	400ppm	Rising	100ppm
		9999 ppm	2000ppm	Rising	4000ppm	Rising	1000ppm
Nitrogen Monoxide	NO	100 ppm	20ppm	Rising	40ppm	Rising	10ppm
Sulphur Dioxide	SO_2	15.0ppm	2.0ppm	Rising	6.0ppm	Rising	1.5ppm
		50.0ppm	5.0ppm	Rising	20.0ppm	Rising	5.0ppm
Nitrogen Dioxide	NO_2	10.0ppm	2.0ppm	Rising	4.0ppm	Rising	1.0ppm
Oxygen	O_2	25.0% V/V	19.5%Vol	Falling	23.5%Vol	Rising	10.0%Vol

Note
Please refer to Sensepoint Sensor Datasheet for further details.

Certification

European	ATEX Ex II 2 GD Ex d IIC Gb T6 (Ta -40°C to +65°C) Ex tb IIIC T85°C Db IP66
International	IEC Ex d IIC Gb T6 (Ta -40°C to +65°C) Ex tb IIIC T85°C Db IP66
China	GB Ex d IIC T4 GB3836.1&2 -2000, PA, CCCF
Korea	KTL Ex d IIC T6 (-40°C to +65°C)
EMC	CE: EN50270:2006 EN6100-6-4:2007

Environmental

IP Rating	Transmitter: IP66, Sensor: IP67 in accordance with EN60529:1992
Transmitter Certified Operating Range	-40°C to +65°C (-40°F to +149°F) Note: The detector display may become illegible at temperatures below -20°C, but the detector continues its gas monitoring function. The display is not damaged and recovers when the temperature rises back above -20°C. See Sensepoint Sensor Datatsheet for further certified and operational temperature details.
Operating Humidity	Continuous 20-90%RH (non-condensing), Intermittent 0-99%RH (non-condensing)
Operating Pressure	90-110kPa
Storage Conditions	-25°C to +65°C (-13°F to 131°F)

Transmitter Ordering Information

Standard Supply	Sensepoint XCD RTD is supplied complete with integral wall mounting plate, 2 x M20 side entries and 1 x M25 bottom entry. 1 x M20 plug, Allen key for locking screw, operating magnet, quick start guide and instruction manual CD. Default settings, ranges and calibrations are 100% tested at the factory. Each unit is supplied with a test certificate.
Shipping Details	Shipping carton dimensions: L312mm (12.3") x W223mm (8.8") x D110mm (4.3") Approximate weight: aluminium 2.5kg (5.5lbs), stainless steel 5.5kg (12.1lbs)

Sensepoint XCD RTD Version

S P X C D A L M T X 4

Certification*	Enclosure Material	Entry
A- ATEX/IECEx	L- LM25 S- Stainless Steel	M- M20 Sides and M25 Bottom

Note:
Order required sensor separately
*Asian certifications also available

Sensepoint XCD RTD Transmitter

SPXCDASMTX4	ATEX/IECEX & AP approved SP XCD RTD Transmitter with 316SS
SPXCDALMTX4	ATEX/IECEX & AP approved SP XCD RTD Transmitter with LM25

Sensepoint Toxic Sensors

2106B1400	Sensepoint H_2S 0-20ppm Toxic Sensor M20
2106B1401	Sensepoint H_2S 0-50 ppm Toxic Sensor M20
2106B1402	Sensepoint H_2S 0-100 ppm Toxic Sensor M20
2106B1500	Sensepoint H_2S 0-20 ppm Toxic Sensor M25
2106B1501	Sensepoint H_2S 0-50 ppm Toxic Sensor M25
2106B1502	Sensepoint H_2S 0-100 ppm Toxic Sensor M25
2106B1405	Sensepoint CO 0-100 ppm Toxic Sensor M20
2106B1406	Sensepoint CO 0-200 ppm Toxic Sensor M20
2106B1407	Sensepoint CO 0-500 ppm Toxic Sensor M20
2106B1505	Sensepoint CO 0-100 ppm Toxic Sensor M25
2106B1506	Sensepoint CO 0-200 ppm Toxic Sensor M25
2106B1507	Sensepoint CO 0-500 ppm Toxic Sensor M25
2106B1410	Sensepoint Cl_2 0-5 ppm Toxic Sensor M20
2106B1411	Sensepoint Cl_2 0-15 ppm Toxic Sensor M20
2106B1510	Sensepoint Cl_2 0-5 ppm Toxic Sensor M25
2106B1511	Sensepoint Cl_2 0-15 ppm Toxic Sensor M25
2106B1413	Sensepoint NH_3 0-50 ppm Toxic Sensor M20
2106B1414	Sensepoint NH_3 0-1000 ppm Toxic Sensor M20
2106B1415	Sensepoint NH_3 0-100 ppm Toxic Sensor M20
2106B1513	Sensepoint NH_3 0-50 ppm Toxic Sensor M25
2106B1514	Sensepoint NH_3 0-1000 ppm Toxic Sensor M25
2106B1515	Sensepoint NH_3 0-100 ppm Toxic Sensor M25
2106B1416	Sensepoint H_2 0-1000 ppm Toxic Sensor M20
2106B1417	Sensepoint H_2 0-10000 ppm Toxic Sensor M20
2106B1516	Sensepoint H_2 0-1000 ppm Toxic Sensor M25
2106B1517	Sensepoint H_2 0-10000 ppm Toxic Sensor M25

Sensepoint Toxic and Oxygen Sensors

2106B1418	Sensepoint NO 0-100 ppm Toxic Sensor M20
2106B1518	Sensepoint NO 0-100 ppm Toxic Sensor M25
2106B1420	Sensepoint SO_2 0-15 ppm Toxic Sensor M20
2106B1421	Sensepoint SO_2 0-50 ppm Toxic Sensor M20
2106B1520	Sensepoint SO_2 0-15 ppm Toxic Sensor M25
2106B1521	Sensepoint SO_2 0-50 ppm Toxic Sensor M25
2106B1422	Sensepoint NO_2 0-10 ppm Toxic Sensor M20
2106B1522	Sensepoint NO_2 0-10 ppm Toxic Sensor M25
2106B1430	Sensepoint O_2 25% V/V Toxic Sensor M20
2106B1530	Sensepoint O_2 25% V/V Toxic Sensor M25

Sensepoint Cell Exchange Kits

2106B1545	O_2 Electrochemical Cell Exchange Kit
2106B1546	SO_2 Electrochemical Cell Exchange Kit
2106B1547	Cl_2 Electrochemical Cell Exchange Kit
2106B1548	CO Electrochemical Cell Exchange Kit
2106B1549	H_2S Electrochemical Cell Exchange Kit
2106B1594	NO Electrochemical Cell Exchange Kit
2106B1595	NH_3 0-1000 ppm Electrochemical Cell Exchange Kit
2106B1596	NH_3 0-50 ppm Electrochemical Cell Exchange Kit
2106B1597	H_2 0-1000 ppm Electrochemical Cell Exchange Kit
2106B1598	H_2 10000 ppm Electrochemical Exchange Kit
2106B1599	NO_2 0-10 ppm Electrochemical Exchange Kit

Accessories

00780-A-0100	Term Hsg - Bartec DE1155 with continuity plate 1 x 25mm - 3 x 20mm Entries - ATEX approved
SPXCDDMK	Duct mounting kit
SPXCDHMRTEN	Hard copy manual in English
SPXCDMTBR	Mounting bracket (inc. bolts, nuts, brackets)
SPXCDSDP	Sunshade/deluge protection

Our Product Range

Fixed Gas Monitoring

Honeywell Analytics offers a wide range of fixed gas detection solutions for a diverse array of industries and applications including: Commercial properties, industrial applications, semiconductor manufacturers, energy plants and petrochemical sites.

» Detection of flammable, oxygen and toxic gases (including exotics)

» Innovative use of 4 core sensing technologies – paper tape, electrochemical cell, catalytic bead and infrared

» Capability to detect down to Parts Per Billion (ppb) or Percent by Volume (%v/v)

» Cost effective regulatory compliance solutions

Portable Gas Monitoring

When it comes to personal protection from gas hazards, Honeywell Analytics has a wide range of reliable solutions ideally suited for use in confined or enclosed spaces. These include:

» Detection of flammable, oxygen and toxic gases

» Single gas personal monitors – worn by the individual

» Multi-gas portable gas monitors – used for confined space entry and regulatory compliance

» Multi-gas transportable monitors – used for temporary protection of area during site construction and maintenance activities

Technical Services

At Honeywell Analytics, we believe in the value of great service and customer care. Our key commitment is providing complete and total customer satisfaction. Here are just a few of the services we can offer:

» Full technical support

» Expert team on hand to answer questions and queries

» Fully equipped workshops to ensure quick turnaround on repairs

» Comprehensive service engineer network

» Training on product use and maintenance

» Mobile calibration service

» Customised programmes of preventative/corrective maintenance

» Extended warranties on products

Honeywell